

## ABSTRACT

A digital VSB transmission system that is able to send supplemental data along with MPEG image/sound data is enclosed. The system initially encodes the supplemental data symbol to generate a parity bit, and it multiplexes the parity bit with a predefined sequence and transmits the multiplexed data to a receiver. The system is compatible with the existing ATSC 8T-VSB receivers that are already on the market. It can have advantages over the other type of VSB transmission systems that transmit only the predefined sequence. In addition, the system according to the present invention results in improved robustness against ghost and noise signals in a channel compared to systems using only the 1/2 rate convolutional encoding.